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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/539,045

Filing Date: March 06, 2006

Appellant(s): ULIN ET AL.

John Castellano
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/23/2010 and 2/2/2011 appealing from the Office action mailed 8/2/2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 15-29 are rejected and pending.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

20020101310	Jennings	8-2002
4,693,867	Commarmot et al	9-1987
5,520,886	Bennett et al	

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 15-21 and 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jennings (US 2002/0101310) in view of Commarmot et al (USP 4,693,867).

Regarding claims 15-17 and 25, 27-29, Jennings teaches an instrument for microwave-assisted chemical processes comprising:

a microwave transparent reaction vessel 105 having an open upper end and a closed bottom end;

a collet assembly 91 having a through hole ("a cap having a through hole");

a septum 134 made of a material, preferably an appropriate polymer or silicone related material ("sealing diaphragm" "sealing, elastic diaphragm") (Para. 0072-0076)

a removable attenuator 33 ("sleeve") with a through hole, the vessel 105 extending axially through the attenuator, the collet securing the vessel to the attenuator (see Fig. 11) while clamping the septum to form a pressure seal (Para. 0072) ("diaphragm for sealing the open upper end of the vessel"). The open upper end of the vessel is formed with a widening portion. The widening portion is received in the attenuator. The device is used in methods for performing microwave-assisted chemical reactions including steps of initiating or accelerating chemical reactions. The collet assembly 91 acting as a unit includes features 86, 107, 110 and 106 (see Fig. 11 below). The collet assembly therefore holds the septum 134 ("diaphragm") and the attenuator 33 ("sleeve") (**"cap extending over the diaphragm and the sleeve so as to secure the vessel to the sleeve"**).

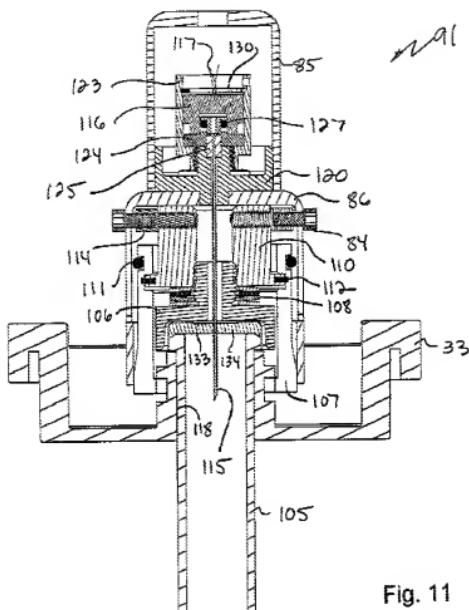


Fig. 11

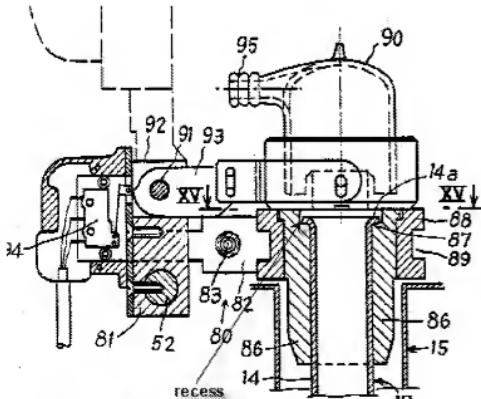
Jennings is silent about the widening portion is received by a corresponding recess formed in an end plane of the attenuator, and the recess providing a seat for the widening portion in the open upper end of the vessel.

Commarmot et al teach a container 12 ("micro vial") assembly for performing microwave-assisted chemical reactions, the assemble comprising: a container 12 made of glass ("a micro-wave transparent reaction vessel having an open upper end and a closed bottom end"); a cover 90 ("cap") having a tube 95 ("through hole"), wherein two half-shells 86 ("a sleeve") is framed with a through hole, the container 12 ("vessel")

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extending axially through the two half-shells 86 ("sleeve") and the cover 90 ("cap") securing the vessel to the sleeve while clamping, the open upper end of the vessel being formed with a widening portion, the widening portion being received in a corresponding shoulder 87 ("recess") formed in an end plane of the sleeve, the shoulder providing a seat for the widening portion in the open upper end of the vessel (see Fig. 14 below). **It is desirable to provide a shoulder ("recess") to hold the widening portion of the vessel in order to hold the reaction vessel in a defined position.**

Commarmot teach the upper end of the two half-shells 86 ("sleeve") is formed circumferentially for engagement with the cap, the sleeve having a first diameter portion running from the upper end to meet a reduced diameter portion in the lower end of the sleeve (see Fig. 14 above). Commarmot teach the portion of reduced diameter in the lower end of the sleeve is a truncated cone.



Simple substitution of one known element for another to obtain predictable results is held to be obvious. Therefore, it would have been obvious to one of ordinary skill in the art to substitute the sleeve 86 of Commarmot with the attenuator of Jennings because they are known sleeves to hold microwave reaction vessels in a defined position during the reaction and to provide the above advantage of providing a seat to hold the reaction vessel in a defined position.

Regarding claim 18, Jennings/Commarmot teach the widening portion of the vessel and the seat in the end plane of the sleeve are both conical in shape (Jennings: Fig. 13 and Commarmot: Fig. 14).

Regarding claims 19-21, Jennings/Commarmot the container has a rim that extends to the diaphragm (Jennings: Fig. 11 and Commarmot: Fig. 8), sealing the open end of the vessel wherein a reducing radius portion smoothly transforming into a portion of continuous radius defining a reaction chamber of the verse cavity. Jennings is silent that the rim protruding above where the shoulder and flange of the sleeve and the upper rim extends transversely. Commarmot further shows container 12 wherein the upper rim extends transversely (see Fig. 8 below).

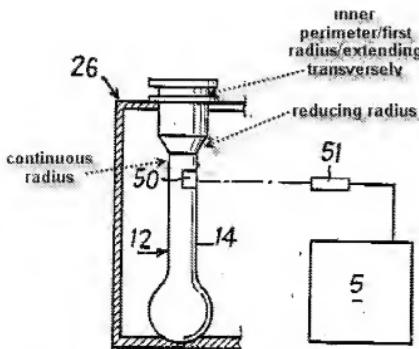


Fig. 8

Simple substitution of one known element for another to obtain predictable results is held to be obvious. Therefore, it would have been obvious to one of ordinary skill in the art to substitute the reaction vessel 12 of Commarmot with the reaction vessel 105 of Jennings because they are known reaction vessels to perform high pressure reactions activated by microwaves. It is noted that when the vessel is supported in the sleeve, the rim is being dimensioned to be depressed in the lower side of the diaphragm.

Regarding claims 23-25, Jennings/Commarmot teach the vessel has an inner volume. The inner volume is fully capable of including a head-space volume which is less than 20 times that of the smallest reaction mixture volume contained in the vessel, for performing microwave-assisted chemical reactions on small volumes of 500 .mu.l or

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less, and for performing microwave assisted chemical reactions on small reaction mixture volumes

Regarding claim 26, Jennings/Commarmot teach the outer perimeter of the sleeve is dimensioned for bridging the radial distance between a wall of the vessel and an entrance diameter, of a microwave cavity in the system.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jennings (US 2002/0101310) in view of Commarmot et al (USP 4,693,867) and further in view of Bennett et al (USP 5,520,886).

Jennings/Commarmot et al teach the limitations of claim 15 as per above.

Regarding claim 22, Jennings/Commarmot teach the bottom of the container 12 can be generally semi-spherical in form or have a flat bottom if the container is of the ordinary tubular type or in the form of a bulb in the case of a flask. Commarmot is silent about the bottom located above the terminal end of the vessel.

Bennett et al teach sealable container assemblies include containers for materials which are to be microwave heated. The bottom of the reaction vessel is formed above the terminal end of skirt 31. It is desirable to form the bottom above the terminal end of the container to provide a skirt that avoids dangerous explosions by allows for a more gradual failure of the container. The skirt also allows the container to stand upright on its own when the bottom is rounded.

Therefore it would have been obvious to one of ordinary skill in the art as motivated by Bennett et al to form the bottom of the reaction vessel of Commarmot et al

above the terminal end of the skirt as in Bennett et al because the skirt facilitates distortion downwardly of the container bottom and thereby promotes a more gradual failure of the container and slower release of contents during high pressures (col. 3 lines 40-47).

For Claim 22, it is noted that this claim contains product-by-process language. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process, consult *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In this case the bottom of the reaction vessel of Commarmot/Bennett seems similar to those instantly claimed.

Therefore, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product, consult *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

(10) Response to Argument

Appellants argue that the collet 91 of Jennings does not extend over the attenuator 33 but that the collet 91 is within (or inside) the attenuator, and therefore cannot be read on the cap of the present claims that extends over the diaphragm and the sleeve. The argument is not persuasive because the collet assembly 91 contacts the septum 134 at 106 ("extending over the diaphragm") and further extends over the attenuator 33 at 107 ("extending over the sleeve"). It is noted that "extend over" is

sufficiently broad to read on the portion that of the collet that extends over the sleeve at part of the device signified by element 107 in Fig. 11 (shown above). Appellants indicate that the "cap" of Jennings should only be read on the deformable metal portion 133 that only extends over the septum 134 and the vessel 105 and not extending over the diaphragm and the sleeve. This is not convincing because the collet ("cap") is the combination of the structures that make up the collet. As noted, the portion 133 covers the septum, but the collet also comprises the element 107 that extends over the attenuator 33 "sleeve" as required by the claim.

Appellants argue that the mere substitution of a sleeve member is insufficient to establish a motivation to combine. Appellants further argue that establishing motivation requires the Examiner to demonstrate why one of ordinary skill in the art, absent the teachings of appellant's application, would want to substitute the sleeve member of Commarmot with the sleeve member of Jennings. It is noted that Commarmot teaches the advantage of the sleeve member to provide a seat to hold the reaction vessel in a defined position. Appellants argue that Commarmot teaches away from "sealing" the diaphragm because it would keep the fumes locked inside the reaction vessel. These arguments are not convincing for two reasons. First, Commarmot teaches the advantage of a sleeve member to provide a seat for the reaction vessel. This advantage is being substituted into the device of Jennings. Second, Jennings provides a means to release the fumes locked inside the reaction vessel and therefore the combination of the sleeve member of Commarmot would not affect the ability to remove the fumes as taught by Jennings.

Appellants further argue that the most obvious way to replace the sleeve member of Commarmot into the device of Jennings would be to replace the vessel 14 of Commarmot with the vessel 105 of Jennings, but there is no motivation to use a cap to clamp together the vessel, diaphragm and the sleeve together, because the sleeve is already clamped by jaws 82. This is not convincing because the Jennings reference already teaches the collet 91 holding the vessel, diaphragm, and sleeve together and therefore there is no need to replace the vessel for Jennings with the vessel of Commarmot since the substitution is of the sleeve.

Appellants argue that the examiner's statement, "it would have been obvious to one or [sic] ordinary skill in the art to substitute the sleeve 86 of Commarmot with the attenuator of Jennings because they are known sleeves to hold microwave reaction vessels in a defined position during the reaction" is merely conclusory, and not an articulated reasoning with some rationale underpinning. It is noted that the rejection above included for clarification the motivation that was present in Final Office Action (page 4 lines 8-9) that stated the sleeve in Commarmot provides the desirable advantage of providing a seat in order to position the vessel during reaction.

Regarding claim 29, Appellants raise the same arguments supra.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Dennis M White/

Examiner, Art Unit 1772

/In Suk Bullock/
Supervisory Patent Examiner, Art Unit 1772

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